

CLAIMS

1. A catheter and stylet assembly, comprising:
 - a) a catheter tube having a proximal end and a distal end;
 - b) a primary stylet extending into said tube from said proximal end; and
 - c) a secondary stylet extending into said tube from said proximal end;
 - d) said primary and secondary stylets being independently movable longitudinally of said tube to adjust the stiffness of said tube.
2. The catheter and stylet assembly of Claim 1 further characterized in that:
 - a) said tube is an 8 Fr size tube.
3. The catheter and stylet assembly of Claim 2 further characterized by and including:
 - a) a bolus on the distal end of said tube.
4. The catheter and stylet assembly of Claim 1 further characterized in that:
 - a) said primary stylet includes a proximal end seated in a sleeve fitting;
 - b) said secondary stylet includes a proximal end seated in a sleeve fitting;
 - c) said primary and secondary stylet fittings being releasably connected by an intermediate sleeve fitting.
5. A stylet sub-assembly, comprising:
 - a) a stylet having a proximal end and a distal end;
 - b) a sleeve fitting having an axial passage extending longitudinally therethrough from end-to-end; and
 - c) a seat formed in said fitting on one side of said axial passage;

- d) said proximal end of said stylet being mounted in said seat.
6. The stylet sub-assembly of Claim 5 further characterized in that:
- a) said seat comprises a slot formed inside said sleeve on one side of said axial passage;
 - b) said proximal end of said stylet being force-fit into said slot.
7. A catheter and stylet assembly, comprising:
- a) a catheter tube sub-assembly including a catheter tube having a distal end and a proximal end, said tube having a connector on its proximal end; and
 - b) a first stylet sub-assembly including a primary stylet having distal and proximal ends, said first stylet sub-assembly also including a first stylet fitting in which the proximal end of said primary stylet is seated; and
 - c) a second stylet sub-assembly including a secondary stylet having distal and proximal ends, said secondary stylet sub-assembly also including a second stylet fitting in which the proximal end of said secondary stylet is seated;
 - d) said first stylet fitting being releasably seated in said connector with said primary stylet extending into said tube and said secondary stylet fitting being releasably connected to said first stylet fitting with said secondary stylet extending into said tube.
8. The catheter and stylet assembly of Claim 7 further characterized in that:
- a) said second stylet sub-assembly further including a sleeve fitting which connects said first stylet fitting to said second stylet fitting.
9. The catheter and stylet assembly of Claim 7 further characterized in that:
- a) said secondary stylet has a visible mark formed on it approximately 12 inches from its stylet connector.

10. The catheter and stylet assembly of Claim 7 further characterized in that:

a) said catheter tube assembly includes a catheter tube containing two lumens.

11. The catheter and stylet assembly of Claim 7 further characterized in that:

a) said catheter tube is a single lumen, 8 Fr size tube having a bullet nose bolus on its distal end.

12. The catheter and stylet assembly of Claim 10 further characterized in that:

a) said catheter tube assembly includes an 8 Fr catheter tube containing two lumens and a smaller diameter catheter tube containing a single lumen;

b) said tubes being connected by a bolus having a side port.

13. The catheter and stylet assembly of Claim 12 further characterized in that:

a) said single lumen catheter tube is a 5 or 6 Fr size tube.

14. The catheter and stylet assembly of Claim 11 further characterized in that:

a) said catheter tube is coated inside and out adjacent said bolus with a water soluble lubricant.

15. A method of inserting a catheter tube into a patient's body cavity comprising the steps of:

a) providing a catheter tube having a lumen extending between a distal end and a proximal end;

b) inserting first and second stylets into said tube from said proximal end whereby said stylets are in side-by-side relationship in at least a portion of said tube;

- c) introducing said catheter tube, distal end first, into an access passage to said body cavity and
- d) manipulating said stylets longitudinally relative to each other in said tube to adjust the stiffness of said tube as it travels through said access passage.

16. The method of Claim 15 further characterized by and including the step of:

- a) coating the inside of said lumen with a water activated lubricant before inserting said stylets.

17. A method of inserting a catheter tube into a patient's jejunum comprising the steps of:

- a) seating the connected primary and secondary stylets into a Y-connector;
- b) flushing the tube with water through the tube to activate a lubricious coating in the tube's internal lumen;
- c) retracting the secondary stylet to a wire mark located a predetermined distance distal from the stylet connector;
- d) dipping approximately 6 inches of the tube and tip in water;
- e) inserting the tube while, at the same time, passing the tube at the point of entry at the nares through a moist gauze pad to activate the external lubricant;
- f) after the tube enters the stomach, re-connecting the secondary stylet connector to the primary connector;
- g) advancing the primary and secondary stylet stiffened catheter into the duodenum to the Ligament of Trietz;
- h) retracting the secondary stylet to a wire mark located a predetermined distance distal from the primary stylet connector;
- i) advancing the tube tip to its desired final location, beyond the Ligament of Trietz in the jejunum;

j) while holding the Y-connector, retracting the secondary stylet; and

k) then, while holding the Y-connector, retracting the primary stylet carefully so as to not dislodge the tube from the jejunum.

18. The method of Claim 15 further characterized in that:

a) said catheter tube includes a multi-lumen segment and a single lumen segment connected by a mid-port bolus.

19. A method of positioning an enteral feeding tube distal to the pylorus in a patient's gastro-intestinal system, comprising the steps of:

a) providing an enteral feeding tube having a proximal end and a distal end, said tube including a normally coiled section adjacent said proximal end;

b) inserting a stiffening element in said tube to stiffen said tube and uncoil said normally coiled section;

c) passing said distal end of said tube and said uncoiled tube section into the patient's stomach;

d) inserting the distal end of said tube past the pylorus and into the patient's duodenum with the aid of the stiffening element inside of it;

e) continuing the insertion of the tube into the patient's duodenum until the normally coiled section has entirely traversed the pylorus; and

f) pulling the stiffening element out of the proximal end of said tube to permit said normally coiled section to again assume a coiled configuration.

20. A method of inserting a catheter tube into a patient's jejunum through the nasogastric cavities, comprising the steps of:

a) inserting a guide wire through the patient's nasogastric passages, past the pyloric valve, into the duodenum and past the Ligament of Trietz into the jejunum;

- b) threading a catheter tube onto the proximal end of the guide wire and manipulating the tube to cause it to follow the wire into the patient's stomach cavity;
- c) inserting a stylet into the catheter tube from its proximal end until the tip of the stylet is adjacent the tip of the tube;
- d) using the stylet to force the tip of the tube through the pyloric valve and duodenum to the Ligament of Trietz;
- e) retracting the wire to a point where its distal end is out of the jejunum; and
- f) using the stylet to force the distal end of the tube past the Ligament of Trietz and into the jejunum; and
- g) withdrawing both the wire and the stylet from the tube.

21. The method of Claim 20 further characterized by and including the steps of:

- a) providing a catheter tube which includes a coil section adjacent the distal end of the tube;
- b) threading the tube, including the coil section, over the guide wire so as to uncoil and straighten the tube in said section;
- c) advancing said coil section past the Ligament of Trietz and into the jejunum while it is uncoiled; and
- d) permitting the section to form a coil again in the jejunum.

22. The method of Claim 21 further characterized by and including the steps of:

- a) pulling said stylet out of the tube to permit the section to form a coil again.

23. A catheter assembly, comprising:

- a) a catheter tube having a proximal end and a distal end;
- b) a primary removable stiffening element extending through said tube from said proximal end; and

c) a secondary removable stiffening element extending into said tube from said proximal end;

d) said primary and secondary stiffening elements being independently movable longitudinally in said tube to vary the stiffness of said tube.

24. The catheter assembly of Claim 23 further characterized in that:

a) said catheter tube comprises a multiple lumen tube at its proximal end and a single lumen tube at its distal end, the tubes being interconnected so that said stiffening elements can extend the full length of both tubes.

25. The catheter assembly of Claim 23 further characterized in that:

a) said primary removable stiffening element is a guide wire.

26. The catheter assembly of Claim 25 further characterized by and including:

a) a bolus having a bullet nose and a side port on the distal end of said tube;

b) said bolus also having an aperture in said nose through which said guide wire passes.

27. A method of inserting a catheter tube into a patient's body cavity comprising the steps of:

a) providing a catheter tube having a lumen extending between a distal end and a proximal end;

b) introducing said catheter tube, distal end first, into an access passage to said body cavity;

c) inserting first and second stiffening elements into said tube from said proximal end whereby said stylets are in side-by-side relationship in at least a portion of said tube; and

d) manipulating at least one of said stiffening elements longitudinally relative to the other in said tube to adjust the stiffness of said tube as it travels through said access passage.

28. The method of Claim 27 further characterized by and including the step of:

a) coating the inside of said lumen with a water activated lubricant before inserting said stylets.

29. The method of Claim 27 further characterized in that:

a) said catheter tube includes a multi-lumen segment and a single lumen segment connected by a mid-port bolus.

)